

DigiPen Institute of Technology
MAT 362
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Abstract

Team:

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Project:

In CS 105, students implement driving logic on robotic cars and trucks. This is typically implemented by reading the analog sensors, comparing the values to a threshold, then engaging the motors depending upon the result of the comparison. In most approaches, this takes a continuous range of values and partitions it into two groups - on and off. Our approach involves creating a range of membership functions for the strength of sensor readings and the strength of the turn. We then define a relationship from sensors to turns. We have a precomputed table in which the sensor readings are mapped via the relationship to the turn strength functions and defuzzified into the actual values to send to the servos to turn the wheels. At runtime, sensor readings will be used to index into the table in order to retrieve the correct turn value. We are hoping this will provide more precise and natural-looking driving for the vehicle.